determining whether a sum of the short-term averaged energy and a factor is greater than the long-term averaged energy; and

determining that the current audio frame represents silence if the sum is less than the long-term averaged energy, without necessitating a determination of the peak-to-mean likelihood ratio.

4. The method of claim 3, upon determining that the sum is greater than the long-term averaged energy and before determining the peak-to-mean likelihood ratio, the method further comprises:

determining whether a difference between the long-term averaged energy and the short-term averaged energy is less than a predetermined threshold;

determining that the current audio frame represents voice if the difference is greater than the predetermined threshold; and

continuing by determining the peak-to-mean likelihood ratio if the difference is less than the predetermined threshold.

5. The method of claim 2, wherein the determining of the short-term averaged energy comprises:

determining an energy, in decibels, of the current audio frame;

determining a short-term averaged energy for a prior audio frame; and

conducting a weighted average of the energy of the current audio frame and the short-term averaged energy for the prior audio frame.

6. (Twice Amended) A method for enhancing voice activity detection comprising:

determining a peak-to-mean likelihood ratio, the determining a peak-to-mean likelihood ratio comprises

calculating an averaged peak-to-mean ratio for the current audio frame,

determining a maximum averaged peak-to-mean ratio,

determining a minimum averaged peak-to-mean ratio,

determining a difference between the maximum averaged peak-to-mean ratio and the averaged peak-to-mean ratio for the current audio frame,

determining a difference between the maximum averaged peak-to-mean ratio and the minimum averaged peak-to-mean ratio, and

conducting a ratio, a denominator of the ratio being the difference between the maximum averaged peak-to-mean ratio and the minimum averaged peak-to-mean ratio, the numerator being the difference between the maximum averaged peak-to-mean ratio and the averaged peak-to-mean ratio; and

comparing the peak-to-mean likelihood ratio to a selected threshold to determine whether a current audio frame represents a voice signal.

7. (Cancelled)

8. (Amended) The communication module of claim 12 , wherein the voice activity detector, when executed, controls the processing unit to determine whether a sum of the short-term averaged energy and a predetermined factor is greater than the long-term averaged energy, and to signal that the current audio frame represents silence if the sum is less than the long-term averaged energy.

9. The communication module of claim 8, wherein the voice activity detector, when executed, controls the processing unit to determine whether a difference between the long-term averaged energy and the short-term averaged energy is less than a predetermined threshold, and to signal that the current audio frame represents voice if the difference is greater than the predetermined threshold.

10. (Cancelled)

11. (Amended) The communication module of claim 9, wherein the voice activity detector, when executed, controls the processing unit to determine a peak-to-mean ratio by (i) sampling an analog signal a predetermined number of times to produce a plurality of sampled signals each having a sampled value, (ii) determining a maximum value of the plurality of sampled signals, and (iii) conducting a ratio between an absolute value of the maximum value and a summation of the sampled values for the plurality of sampled signals.

12. (Twice Amended) A communication module comprising:

a substrate;

a processing unit placed on the substrate; and

a memory coupled to the processing unit, the memory to contain a voice activity detector which, when executed, controls the processing unit to

determine a peak-to-mean likelihood ratio for the current audio frame by (i) monitoring a maximum averaged peak-to-mean ratio and a minimum averaged peak-to-mean ratio, (ii) determining a first result being a difference between the maximum averaged peak-to-mean ratio and the averaged peak-to-mean ratio for the current audio frame, (iii) determining a second result being a difference between the maximum averaged peak-to-mean ratio and the minimum averaged peak-to-mean ratio, and (iv) conducting a ratio between the first result as a numerator and the second result as a denominator; and

compare the peak-to-mean likelihood ration to a selected threshold to determine whether the current audio frame represents a voice signal.

13. (Twice Amended) A machine readable medium having embodied thereon a computer program for processing by a machine, the computer program comprising:

a first routine for determining a normalized peak-to-mean likelihood ratio including (i) a denominator having a value substantially equal to a difference between a maximum averaged peak-to-mean ratio and a minimum averaged peak-to-mean ratio and (ii) a numerator having a value substantially equal to a difference between the maximum averaged peak-to-mean ratio and the averaged peak-to-mean ratio; and

a second routine for comparing the peak-to-mean likelihood ratio to a selected threshold to determine whether an audio frame being transmitted represents a voice signal.

14. The machine readable medium of claim 13, wherein the computer program further comprising:

a third routine for determining a short-term averaged energy for the audio frame, the third routine being executed before the first and second routines; and

a fourth routine for determining a long-term averaged energy for the audio frame, the fourth routine being executed before the first and second routines.

15. The machine readable medium of claim 14, wherein the computer program further comprising:

a fifth routine for determining whether a sum of the short-term averaged energy and a predetermined factor is greater than the long-term averaged energy, the fifth routine being executed before the first and second routines; and

a sixth routine for determining whether a difference between the long-term averaged energy and the short-term averaged energy is less than a predetermined threshold, the sixth routine being executed after determining that the sum is greater than the long-term averaged energy and before execution of the first and second routines.

16. The machine readable medium of claim 15, wherein the fifth routine determining that the current audio frame represents silence if the sum is less than the long-term averaged energy.

17. The machine readable medium of claim 15, wherein the sixth routine determining that the current audio frame represents voice if the difference is greater than the predetermined threshold.

18. (Cancelled)

20. A method for enhancing voice activity detection comprising:

determining a peak-to-mean likelihood ratio including (i) a denominator having a value substantially equal to a difference between a maximum averaged peak-to-mean ratio and a minimum averaged peak-to-mean ratio and (ii) a numerator having a value substantially equal to a difference between the maximum averaged peak-to-mean ratio and the averaged peak-to-mean ratio; and

comparing the peak-to-mean likelihood ratio to a selected threshold to determine whether a current audio frame represents a voice signal.

21. The method of claim 20, wherein prior to determining the peak-to-mean likelihood ratio, the method further comprises:

determining a short-term averaged energy for the current audio frame; and

determining a long-term averaged energy for the current audio frame.

22. The method of claim 21, wherein after determining the short-term averaged energy and the long-term averaged energy, the method further comprises:

determining whether a sum of the short-term averaged energy and a factor is greater than the long-term averaged energy; and

determining that the current audio frame represents silence if the sum is less than the long-term averaged energy, without necessitating a determination of the peak-to-mean likelihood ratio.

23. The method of claim 22, upon determining that the sum is greater than the long-term averaged energy and before determining the peak-to-mean likelihood ratio, the method further comprises:

determining whether a difference between the long-term averaged energy and the short-term averaged energy is less than a predetermined threshold;

determining that the current audio frame represents voice if the difference is greater than the predetermined threshold; and

continuing by determining the peak-to-mean likelihood ratio if the difference is less than the predetermined threshold.

24. The method of claim 21, wherein the determining of the short-term averaged energy comprises:

determining an energy, in decibels, of the current audio frame;

determining a short-term averaged energy for a prior audio frame; and

conducting a weighted average of the energy of the current audio frame and the short-term averaged energy for the prior audio frame.